

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-38 (Cancelled)

39. (Currently amended) A method for integrated synthesis and analyte determination on a support, comprising the steps of:

(a) providing a support ~~body~~;

(b) passing a liquid with, present therein, receptors or building blocks for synthesizing polymeric receptors over ~~a~~ the support,

(c) site- or/and time-specifically immobilizing the receptors or building blocks in each case ~~on~~ by photoactivating predetermined positions on the support, the synthesis and analyte determination being carried out in an integrated apparatus, with the synthesis or/and the analyte determination process being monitored and controlled in ~~any number of~~ positions on the support.

(d) where appropriate, repeating steps (b) and (c) until the required receptors have been synthesized in each case on the predetermined positions on the support,

(e) bringing the support into contact with a sample containing analytes and

(f) determining the analytes via their binding to the receptors immobilized on the said support,

wherein ~~an~~ said integrated apparatus ~~comprising~~ comprises a programmable light source matrix, a detector matrix, a said support which is arranged between said light source matrix and said detector matrix, and means for supplying fluids into the said support and for discharging fluids from the said support ~~is used~~.

40. (Canceled)

41. (Previously presented) The method as claimed in claim 39, characterized in that the analyte is removed from the support after the determination.

42. (Previously presented) The method as claimed in claim 39, characterized in that a plurality of determination cycles is carried out, with the receptors for a subsequent cycle being synthesized on the basis of the information from a preceding cycle.

43. (Previously presented) The method as claimed in claim 42, characterized in that an extension of the receptors from the preceding cycle takes place for the subsequent cycle.

44. (Currently amended) The method as claimed in claim 42, ~~characterized in that a new-~~ wherein another support with receptors which are modified compared with the preceding cycle is synthesized for the subsequent cycle.

45. (Currently amended) The method as claimed in claim 44, ~~characterized in that~~ wherein the modification of the receptors comprises a change in the sequence or/and an exclusion of any negative receptors from the preceding cycle.

46. (Currently amended) The method as claimed in claim 39, characterized in that
wherein said support is a planar support is used.

47. (Currently amended) The method as claimed in claim 39, characterized in that a
wherein said support with has a large number plurality of channels is used.

48. (Currently amended) The method as claimed in claim 39, characterized in that
wherein a plurality of supports is used for a determination cycle.

49. (Currently amended) The method as claimed in claim 48, characterized in that
the plurality of supports is synthesized and analyzed in different detection apparatuses
between which there are is information technology links linkage but which may be
spatially separated from one another.

50. (Currently amended) The method as claimed in claim 47, characterized in that a
wherein said support comprising comprises a large number plurality of channels, with a
large number of different receptors being immobilized in the channels, is used.

51. (Previously presented) The method as claimed in claim 50, characterized in that
the support is optically transparent at least in the region of the reaction regions.

52. (Currently amended) The method as claimed in claim 50, characterized in that a
reagent kit comprising wherein the support and building blocks for synthesizing
Polymeric receptors on the support is in the form of a reagent kit employed.

53. (Previously presented) The method as claimed in claim 39, characterized in that the apparatus additionally comprises a module for deprotection of reaction components on the support.

54. (Previously presented) The method as claimed in claim 39, characterized in that the apparatus additionally comprises electronic control means.

55. (New) A method for integrated synthesis and analyte determination on a support, comprising the steps of:

- (a) providing a support which is at least partially transparent;
- (b) passing a liquid with, present therein, receptors or building blocks for synthesizing polymeric receptors over the support,
- (c) site- or/and time-specifically immobilizing the receptors or building blocks in each case on predetermined positions on the support, the synthesis and analyte determination being carried out in an integrated apparatus, with the synthesis or/and the analyte determination process being monitored and controlled in positions on the support ,
- (d) where appropriate, repeating steps (b) and (c) until the required receptors have been synthesized in each case on the predetermined positions on the support,
- (e) bringing the support into contact with a sample containing analytes and
- (g) determining the analytes via their binding to the receptors immobilized on said support,

wherein said integrated apparatus comprises a programmable light source matrix, a detector matrix, said support which is arranged between said light source matrix and said detector matrix, and means for supplying fluids into said support and for discharging fluids from said support.